

MINISTRY OF THE INTERIOR, EGYPT.

---

DEPARTMENT OF PUBLIC HEALTH.

---

FIFTH ANNUAL REPORT

ON THE

OPHTHALMIC SECTION,

1917,

BY THE DIRECTOR OF OPHTHALMIC HOSPITALS.

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CAIRO.

GOVERNMENT PRESS.

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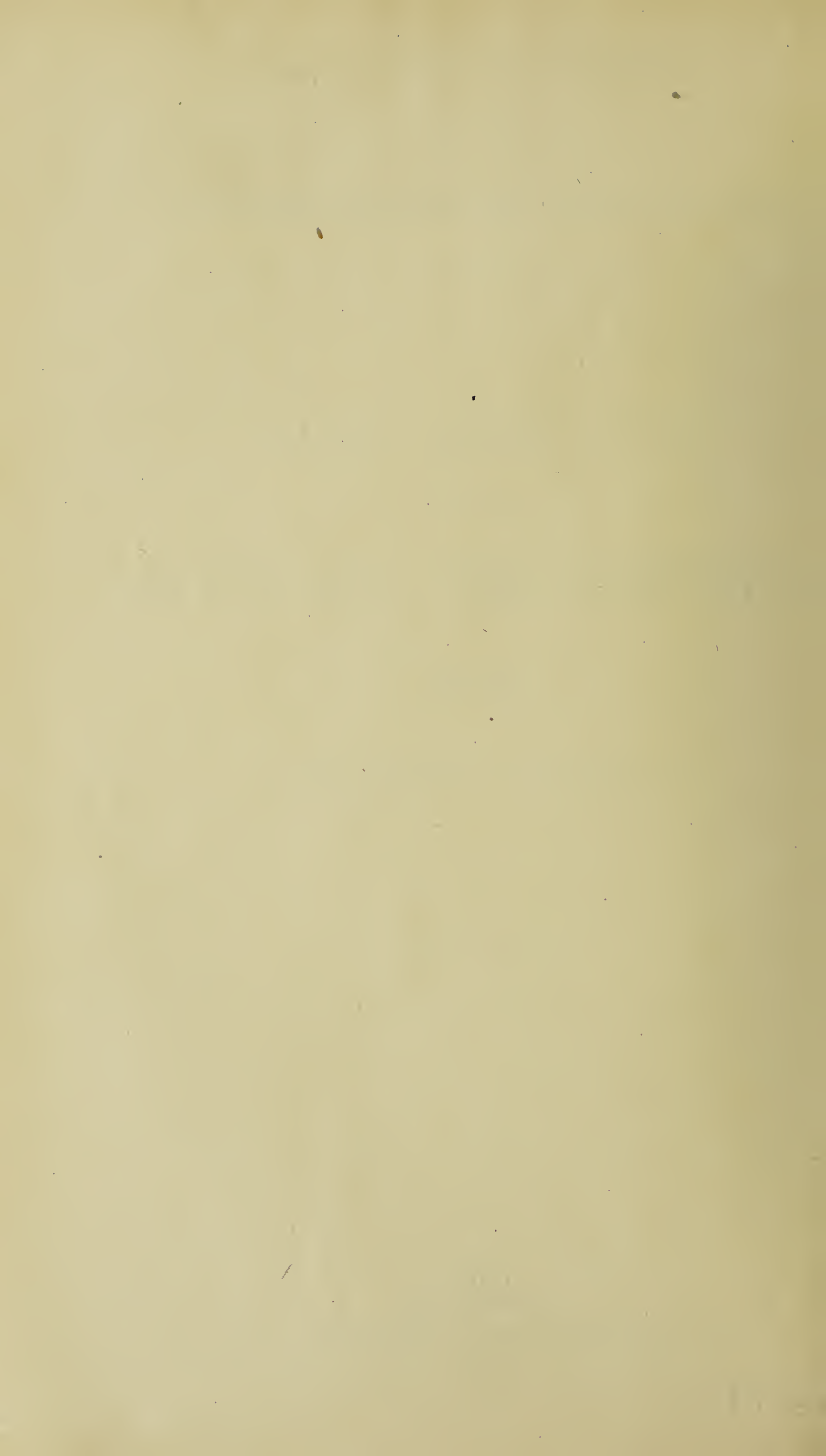
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*Cairo,*  
*February 14, 1918.*

SIR,

I have the honour to enclose my Report on the Ophthalmic Hospitals and on Ophthalmic Progress in Egypt during the year 1917.

I have the honour to be,

Sir,

Your obedient servant,

A. F. MACCALLAN,

*Director of Ophthalmic Hospitals.*

THE DIRECTOR-GENERAL,

DEPARTMENT OF PUBLIC HEALTH,

CAIRO.





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# REPORT ON THE OPHTHALMIC SECTION, 1917.

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## I.—INTRODUCTION.

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*Ophthalmic Hospitals.*—The number of permanent ophthalmic hospitals which have been built during the last eleven years is thirteen; these are now at work and are aided by four travelling hospitals.

*Clinical Work.*—The number of new patients treated in 1917 was 81,529. It was an increase of 19 per cent on those treated in 1916. The number of attendances of out-patients was 1,004,161. The number of operations performed was 59,581.

*Finance.*—The budgetary credit in 1917 was L.E. 21,047,\* not including a sum of L.E. 4,001 granted at various times for equipment and drugs. Besides this, various provincial councils provided L.E. 3,323 for the maintenance of five hospitals. A total sum of about L.E. 28,371 was therefore available for ophthalmic purposes. The amount of money raised from local sources for capital expenditure, and thereby saved to the Government Treasury, now amounts to L.E. 54,107.

*Age of Patients.*—The importance of obtaining treatment for babies and children attacked by ophthalmia is beginning to be recognized by the people. More than 6 per cent of all the patients treated were under the age of one year, and 37 per cent were under the age of fifteen years.

*Blindness.*—13,996 or 13·9 per cent of all the patients examined were blind in one or both eyes. Of these, 4,611 were blind in both eyes. The cause of blindness in most cases was not trachoma but acute conjunctivitis or ophthalmia.

*School Clinics.*—School ophthalmic clinics are carried on at ten of the provincial primary schools at which there is a permanent hospital. At these clinics acute diseases of the eye and trachoma are treated, and spectacles are ordered for pupils who require them.

*Ophthalmological Society.*—The annual meeting of this Society was held in March 1917. The proceedings have been published in the annual bulletin of the Society.

*Post-graduate Course of Ophthalmology.*—A complete course of post-graduate lectures, including pathological and bacteriological demonstration and laboratory work, was given during 1917 by the Director with the assistance of the Inspectors.

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## II.—HOSPITALS.

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### A.—TRAVELLING HOSPITALS.

The two Cassel Fund hospitals have worked at Qena, Kafr el Dawâr, Benha, Gîza, Rosetta and Fuwa. The Daqahliya Provincial Council hospital has worked at Fâriskûr,

\* This includes L.E. 2,560 derived from Sir Ernest Cassel's gift.



‘Aga, Dikirnis and Simbillâwein. The Asyût Provincial Council hospital, a smaller and therefore a less efficient unit than the Daqahliya hospital, has worked at Mallawi, Dairût, Abu Tîg, and Manfalût.

#### B.—PERMANENT HOSPITALS.

Permanent hospitals are working at Tanta, Asyût, Mansûra, Beni Suef, Zagazig, Damanhûr, Shibîn el Kôm, Sohâg, Minya, Faiyûm, Kafr el Zaîyât, Mahalla el Kubra, and Santa. (See Table XXII.)

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### III.—CLINICAL.

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*Number of Cases.*—A résumé of the number of patients seen and the number of operations performed has been given in the introduction to this report. It has been found necessary to limit the number of patients treated as out-patients, in the interest, firstly, of the quality of the clinical work and, secondly, to avoid wearing out the hospital attendants and creating staleness among the medical officers. For these reasons, 12,154 of the less urgent cases were postponed on various occasions. From this it may be concluded that the ophthalmic organization has not as yet been able to cope with the demands made upon it.

*Operations.*—The operations performed for the relief of trichiasis and entropion were 30,200; these figures do not include the removal of individual lashes by electrolysis or epilation. The operations performed were those devised by Snellen, Anagnostakis and Van Millingen. Practically speaking, all cases of trichiasis and entropion resulting from trachomatous cicatrization can be dealt with successfully by one of these methods. Nineteen thousand minor operations for the treatment of trachoma were performed. Iridectomy for adherent leucoma was performed 2,112 times.

*Acute Conjunctivitis.*—As far as possible, all cases of acute and subacute conjunctivitis are examined under the oil-immersion lens of the microscope. During the last year, more than 12,000 such examinations were made (Table I.). In 37 per cent of the cases the causative organism was found to be the gonococcus, and in 21 per cent the Koch-Weeks bacillus. From an examination of the curve (Table II.) of the seasonal incidence of the gonococcus, it is seen that while comparatively rarely met with in January, February, March, and April, its activity becomes awakened in May and increases rapidly in July, reaching a maximum in August. In September there is a slight fall in the number of cases, but they increase again in October. In November a very rapid diminution occurs, persisting through December.

A curve of the temperature variations, if compared with the previously mentioned curve of the monthly incidence of gonococcal conjunctivitis, shows that rises and falls in the temperature curve precede by one month or two months rises and falls in the curve of gonococcal activity. A similar relation between the temperature and gonococcal activity was charted in my reports for 1914, 1915 and 1916.

A comparison of the temperature curve (Table III.), and curves for the diplo-bacillus of Koch-Weeks and for the bacillus of Morax-Axenfeld does not exhibit close relation, although the beginning heat of summer precedes the annual increase in activity of both organisms, and the fall of the average temperature in the autumn antedates the same seasonal diminution of the conjunctivitis caused by them.

In this connection Table IV. should be consulted, showing the monthly variations in the number of patients examined, which also bears a close relation with the temperature.

TABLE I.—ORGANISMS FOUND DURING 1917.

ORGANISMS.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL.
Gonococcus ...	110	65	68	76	187	233	670	817	760	825	677	273	4,761
Koch-Weeks ...	102	110	144	241	361	216	304	293	305	273	203	147	2,699
Morax-Axenfeld or Diplo-bacillus ...	74	107	115	118	307	233	206	327	315	306	208	181	2,497
Pneumococcus ...	15	15	31	31	68	48	38	57	57	44	48	27	479
Xerosis ...	2	4	20	12	21	9	14	16	14	26	7	10	155
Staphylococcus ...	3	1	1	—	2	10	10	28	32	5	3	3	98
Micrococci ...	—	—	—	—	2	3	—	—	—	—	—	—	5
Streptococcus ...	3	1	1	—	2	2	—	—	—	2	2	—	13
Other organisms ...	21	24	20	28	17	10	4	11	7	7	5	4	158
Negative ...	49	58	84	94	167	163	218	175	185	260	228	96	1,777
TOTAL...	379	385	484	600	1,134	927	1,464	1,724	1,675	1,748	1,381	741	12,642

Table II: *Curves showing Variations of Temperature and Gonococcal Conjunctivitis.*





Table III: Curves showing Variations in Temperature and Conjunctivitis due to Koch-Weeks and Morax-Axenfeld Bacillus.

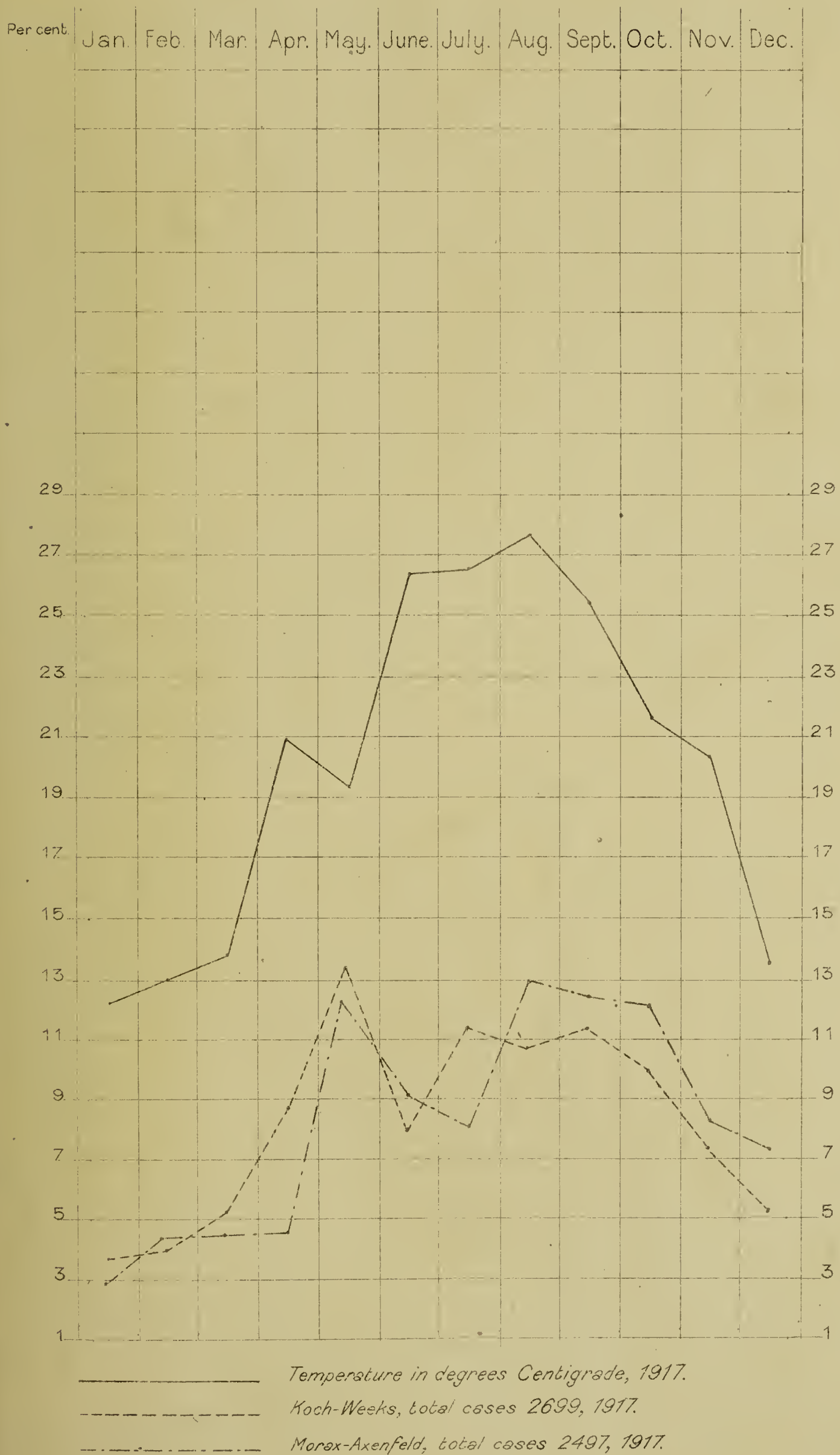
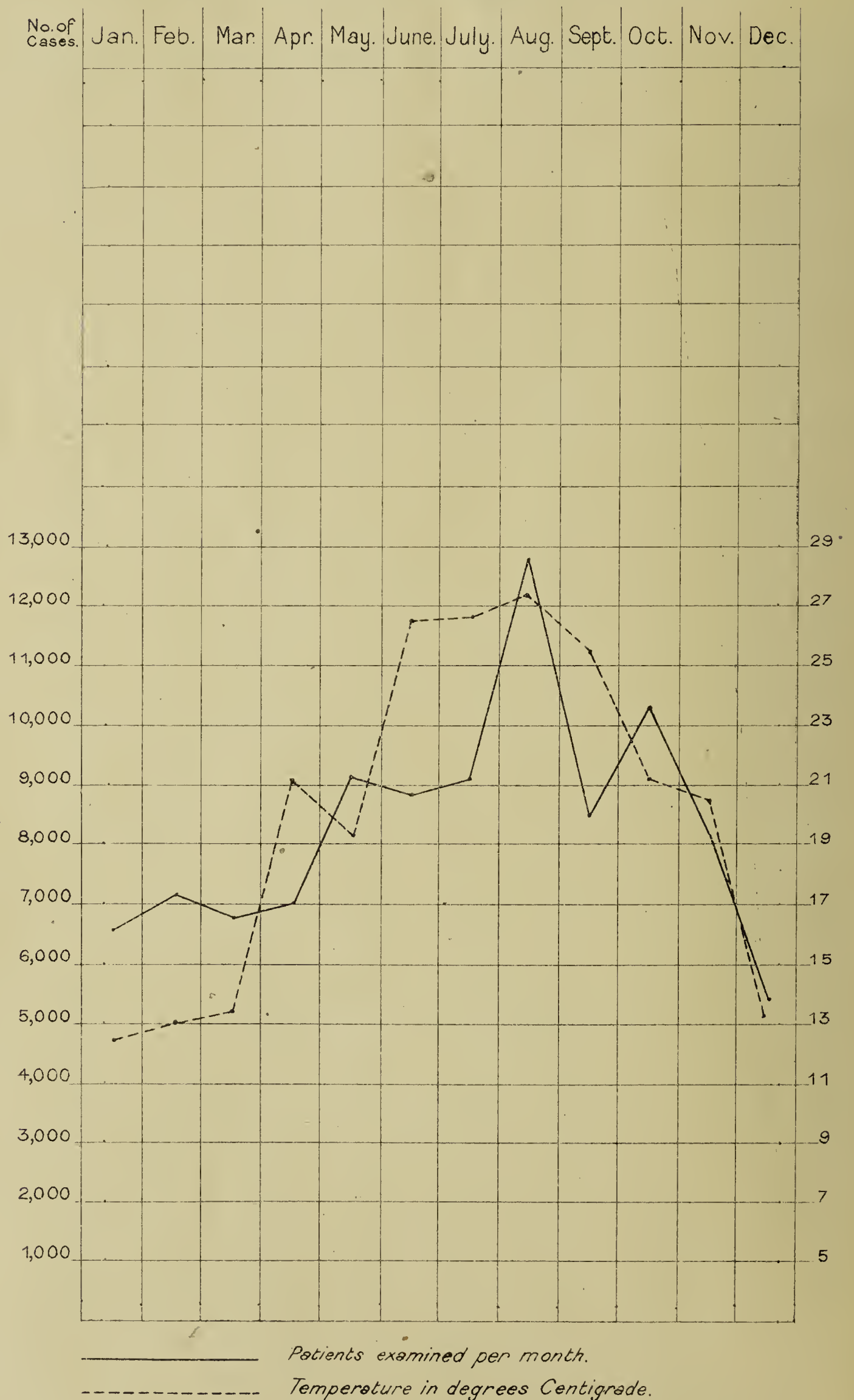


Table IV: *Curves showing the Patients examined per month at the Ophthalmic Hospitals during 1917.*





In this country blindness in one eye is not nearly such a serious disability as in European countries. It is true that it is impossible to enter the Government service as a clerk with rights of pension, or to get some of the technical jobs as a handicraftsman, but it is remarkable how well some men who are blind in one eye only manage to do work which requires a good judgment of distance.

Blindness in both eyes entails little of the misery which it entails in European countries; here, blind people are well cared for by their kin and, thanks to the sun, do not suffer severely from cold.

Owing to the large number of blind in Egypt, it would be a highly uneconomical thing to undertake charitable provision for them on any large scale when the prevention of blindness is so meagrely endowed; and the prevention of blindness should be by the provision of hospitals where early cases of acute conjunctivitis can be dealt with.

One is often asked the question as to whether blindness is diminishing in Egypt, and it is a difficult one to answer. There is no doubt that we meet with a smaller percentage of blindness than we used to do at the hospitals, and this is shown in Table V., where the percentage is seen to have diminished from 19 in 1911 to 11 in 1916. There is a rise in 1917 to 14, due to the large number of blind people seen at Minya (30 per cent), Qena (20 per cent), 'Aga (22 per cent), Asyût (18 per cent), Beni Suef (16 per cent).

This apparent improvement has been attributed to the fact that, while the establishment of new hospitals brings out all the old blind cases to enquire if something cannot be done for them, when the hospital has been running for about six months or a year these get finished off, and all the hospitals getting older the number of blind cases applying for treatment becomes smaller, being mainly those which have recently lost their sight. On the other hand, it is interesting to note that last year, when no new hospitals were opened, recorded blindness increased by 3 per cent above the 1916 figure.

Of course we depend on the hearty co-operation of all surgeons in recording all cases of blindness, and if this is not given all statistics are vitiated. As an interesting point, I exhibit statistics obtained from two provinces in which there were both permanent hospitals and travelling hospitals.

TABLE VI.

	1914	1915	1916	1917
Asyût (permanent) ... ..	14·2	10·1	11·7	18·4
Asyût (travelling) :—				
Manfatût ... ..	{ 5·3	{ 6·7	—	8·9
	{ 8·3			
Mallawi ... ..	5·6	—	6·1	8·2
Dairût ... ..	7·4	—	—	6·4
Abnûb ... ..	—	—	4·1	—
Abu Tig ... ..	—	—	—	9·6
Mansûra (permanent) ... ..	18·6	15·3	16·6	13·2
Daqahliya (travelling) :—				
Mit Ghamr ... ..	16·5	4·7	7·9	—
Mataria ... ..	8·6	—	—	—
Dikirnis ... ..	11·2	—	—	10·6
Fâriskûr ... ..	—	—	7·1	—
'Aga ... ..	—	—	—	22·3
Simbillâwein ... ..	—	—	—	10·7

The Asyût statistics are striking, in that the percentage number of blind is regularly greater at the permanent hospital in Asyût town than in the country or Markaz towns.

In the province of Daqahliya and its capital town, Mansûra, the percentage at one of the country or Markaz towns is considerably higher than at Mansura; this is 'Aga, with

a percentage of 22·3 during the last year. Nor can I explain why the percentage was 16·5 in 1914 at Mît Ghamr, while it fell in the following year to 4·7, again rising in 1916 to about 8.

I think that we must suppose that when the percentage of blindness is high the medical officer has been energetic in noting all cases of blindness, and when the percentage is low that the reverse has been the case.

I desire to point out the very high percentage of blindness at Minya, 30·7 per cent of all the patients examined.

TABLE VII.—Total Percentage of Blindness in one or both Eyes.

	1914	1915	1916	1917
PERMANENT HOSPITALS :—				
Tanta ... ..	11	8·1	5·3	9·2
Asyût ... ..	14·2	10·1	11·7	18·4
Mansûra ... ..	18·6	15·3	16·6	13·2
Beni Suef ... ..	16·7	16·3	13·2	16·0
Zagazig ... ..	15·9	11·1	9·3	15·0
Damanhûr ... ..	16·8	11·4	11·8	13·5
Shibîn el Kôm ... ..	18·5	11·9	11·8	10·2
Sohâg ... ..	19·7	15·3	14·3	14·03
Minya ... ..	—	22·06	20·7	30·7
Faiyûm ... ..	—	—	11·06	13
Mahalla el Kubra ... ..	13·6	16·4	17·03	12·2
Kafr el Zaiyât ... ..	7·8	10·5	8·3	12·6
Santa ... ..	—	—	10·06	13·7
TRAVELLING HOSPITALS :—				
No. 1 Camp :—				
Shibîn el Qanâtir ... ..	21·7	11·8	—	—
Minyet el Qamh ... ..	15	—	—	—
Kafr el Dawâr ... ..	—	—	12·7	11·9
Qena... ..	—	—	—	20·5
Benha ... ..	—	—	—	10·7
No. 2 Camp :—				
Maghâgha ... ..	22·9	—	—	—
Damietta ... ..	9·6	—	—	—
Barrage ... ..	—	5·8	—	—
Giza ... ..	—	—	10·5	12·6
Rosetta ... ..	—	—	—	15·7
Fuwa ... ..	—	—	—	12·6
Asyût No. 1 :—				
Manfalût ... ..	5·3	6·7	—	8·9
Manfalût ... ..	8·3	—	—	—
Dairût ... ..	7·4	—	—	6·4
Mallawi ... ..	5·6	—	6·1	8·2
Abnûb ... ..	—	—	4·1	—
Abu Tig ... ..	—	—	—	9·6
Daqahliya No. 1 :—				
Mit Ghamr ... ..	16·5	4·7	7·9	—
Mataria ... ..	8·6	—	—	—
Dikirnis ... ..	11·2	—	—	10·6
Fâriskûr ... ..	—	—	7·1	—
‘Aga ... ..	—	—	—	22·3
Simbillâwein ... ..	—	—	—	10·7



TABLE VIII.—Blindness per Age during 1917.

HOSPITAL.	Under 1 year.	From 1-5.	From 6-10.	From 11-15.	From 16-20.	From 21-40.	Over 40 years.	Total.
No. 1 Camp ... ..	19	37	53	92	82	319	626	1,228
No. 2 Camp ... ..	1	35	39	59	37	285	321	777
Tanta ... ..	22	63	44	46	27	294	291	787
Asyût ... ..	21	56	65	67	72	513	642	1,436
Mansûra ... ..	10	48	45	47	49	358	264	821
Beni Suef ... ..	20	30	40	95	60	352	282	879
Zagazîg ... ..	15	40	38	55	59	298	322	827
Damanhûr ... ..	2	29	25	47	48	322	275	748
Shibîn el Kôm ... ..	13	30	31	40	46	214	149	523
Sohâg ... ..	8	10	18	54	52	283	276	701
Minya ... ..	61	68	83	55	70	626	606	1,569
Faiyûm ... ..	23	24	44	41	46	336	429	943
Mahalla el Kubra ... ..	6	31	15	32	30	145	187	446
Kafr el Zaîyât ... ..	6	32	25	18	32	240	62	415
Santa ... ..	19	24	24	42	32	164	232	537
Asyût No. 1 ... ..	31	24	49	56	40	279	367	846
Daqahliya No. 1 ... ..	7	45	43	28	22	154	214	513
Total ... ..	284	626	681	874	804	5,182	5,545	13,996

The age of the patients who are examined and found to be blind is of considerable importance.

TABLE IX.

	Per Cent of Total examined.	Per Cent of Total Blind.	Per Cent of Patients of this Age.
Under one year ... ..	0·28	2·02	5·5
From 1 to 5 years ... ..	0·62	4·47	7·9
„ 6 to 10 „ ... ..	0·67	4·86	7·4
„ 11 to 15 „ ... ..	0·87	6·24	10·9
„ 16 to 20 „ ... ..	0·80	5·74	11·9
„ 21 to 40 „ ... ..	5·16	37·02	18·5
Over 40 years ... ..	5·52	39·61	33·7

From this it is seen that the percentage of the early years is low and that the major part of the blindness is composed of patients over twenty-one years of age.

Also, it is found that taking the various ages of all patients examined, there is a much larger proportion of blindness among those over twenty-one than those below.

The cause of blindness is nearly always (73 per cent) acute conjunctivitis (Table X.) ; the percentage due to glaucôma is very high (11 per cent).

TABLE X.

	1917
Congenital ... ..	4
Acquired :—	
Conjunctivitis resulting in :—	
(a) Total corneal opacity ... ..	3,665
(b) Shrunken globe ... ..	3,923
(c) Secondary glaucoma ... ..	2,498
(d) Other conditions ... ..	1,577
Fundus :—	
Optic Atrophy ... ..	178
Retinitis pigmentosa ... ..	22
Various ... ..	254
Glaucoma absolutum :—	
Monocular ... ..	893
Binocular ... ..	903
Cataract ... ..	1,201
Injury ... ..	148
Operation ... ..	52
Infectious disease ... ..	32
Iritis endogenous ... ..	277
Various ... ..	422
TOTAL ... ..	16,049

From an examination of 611,372 patients between the beginning of the year 1906 and the end of 1917, it has been found that 49,650 patients, or about 8 per cent, were blind in one eye ; that 29,818, or about 5 per cent, were blind in both eyes ; and that 79,468, or about 13 per cent, were blind in one or both eyes.

These statistics have been carefully made and full notes prepared in the case of each patient ; the notes are still available and can be referred to.

*Cataract.*—The number of cases of extraction of senile cataract was 477. The number of soft cataracts removed by needling and curette was 194.

*Glaucoma.*—The total number of cases of primary glaucoma examined was 2,444. The operation of trephining with iridectomy continues to be the operation of election.

During the last six years 448,086 patients have been examined at the ophthalmic hospitals of Egypt, and of these 9,686 patients, or 2 per cent, were found to have signs of glaucoma. Full clinical notes of all these cases are in existence and can be referred to if required.

Cases of acute glaucoma are rarely seen, only 71 having applied for treatment during the last six years. Cases of sub-acute glaucoma are rather more frequent, 131 cases having been seen during the same period. The high percentage is made up almost entirely of chronic glaucoma, about half of whom do not apply for treatment until blindness has supervened, more than one per cent of all the patients who seek treatment at the ophthalmic hospitals being already blind in one or both eyes from this disease.

TABLE XI.—Incidence of Primary Glaucoma.

VARIETIES.	1912	1913	1914	1915	1916	1917	TOTAL.
Acute ... ..	3	12	17	8	19	12	71
Sub-acute ... ..	10	17	23	28	15	38	131
Chronic ... ..	829	902	574	396	436	552	3,689
Absolute ... ..	282	217	1,147	1,194	1,113	1,842	5,795
TOTAL... ..	1,124	1,148	1,761	1,626	1,583	2,444	9,686
Total number of patients examined...	43,668	62,233	75,398	71,930	94,447	100,410	448,086
Per cent of glaucoma cases ... ..	2·57	1·84	2·33	2·26	1·67	2·43	2·16
Per cent of absolute glaucoma cases	·65	·34	1·52	1·66	1·17	1·83	1·29
Operations :—							
Iridectomy ... ..	60	28	25	30	78	153	374
Trephining with iridectomy ...	152	317	428	464	534	655	2,550

*Optic Atrophy.*—The number of cases of optic atrophy seen, excluding those due to glaucoma, was 178. Their causes are classified as follows :—

TABLE XII.—Causes of Optic Atrophy.

	1917
1. Post neuritis—after optic neuritis ... ..	26
2. Consecutive—to diseases of retina or choroid ... ..	24
3. Primary—Acute fevers... ..	29
Arteriosclerotic ... ..	5
Auto-intoxication ... ..	2
Syphilis ... ..	3
Tabes ... ..	4
Hydrocephalus ... ..	1
4. Anæmia ... ..	3
5. Unknown ... ..	8
TOTAL ... ..	178



The very large number of cases in which the origin of the optic atrophy is unknown is remarkable and will repay future investigation.

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#### IV.—FUTURE OPHTHALMIC POLICY.

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Of the fourteen provinces of Egypt, ten have already been provided with permanent ophthalmic hospitals. The four remaining provinces have projects for the provision of hospitals, *viz.* :—

1. *Qalyûbiya Province*.—A suitable piece of land belonging to the Government, at Benha, has been chosen and put aside for the purpose of establishing an ophthalmic hospital. The hospital will be established as soon as the Provincial Council of Qalyûbiya provides a sufficient amount for building and equipping. It will be maintained by the Government.

2. *Gîza Province*.—The Provincial Council of Gîza have voted a sum of L.E. 1,500 for purchasing the initial equipment of a travelling ophthalmic hospital, as such a hospital is more suitable for this province than a fixed one. It will be maintained by the Government at a cost of about L.E. 1,500 per annum.

3. *Qena Province*.—The Provincial Council of Qena have provisionally decided to provide a sufficient amount for building and equipping an ophthalmic hospital at Qena. The amount now available is L.E. 5,806. It will be maintained by the Government.

4. *Aswân Province*.—Aswân, owing to its poverty, has no hope of obtaining any means of permanent ophthalmic relief unless the Government comes to its aid with a grant of money to build and equip a hospital. A suitable piece of land belonging to the Government, at Aswân, has been chosen and put aside for the purpose of establishing an ophthalmic hospital.

The Provincial Council of Minya have voted a sum of L.E. 4,000 for building and equipping a hospital at Maghâgha. A site of one feddân has been presented by a notable, from Maghâgha, named El Masri Bey el Saâdi.

The amount of money which has been raised from local sources for the building and equipment of hospitals now amounts to L.E. 54,107.

TABLE XIII.—Permanent and Travelling Ophthalmic Hospitals.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917
Hospitals in existence :—														
Travelling ... ..	1	2	2	2	2	2	2	3	4	5	4	—	4	4
Permanent... ..	—	—	—	—	1	1	1	2	4	7	10	11	13	13
New patients treated	2,954	4,210	7,327	7,446	7,794	12,092	14,342	20,488	28,029	40,670	50,126	52,752	68,304	81,529
Total attendances of out-patients ... ..	15,039	50,680	94,204	146,830	132,278	177,761	190,247	236,411	341,211	544,267	686,012	735,919	849,366	903,751
Operations performed	1,282	2,480	5,846	6,794	6,426	9,930	11,486	14,322	21,315	30,648	40,710	42,146	54,205	59,581
In-patients... ..	49	140	202	184	208	390	443	678	909	1,807	2,071	2,274	2,454	2,847
Details :—														
Patients examined... ..	...	...	...	...	19,614	22,373	25,514	31,274	43,668	62,233	75,398	71,930	94,447	100,410
Patients regularly treated	...	...	...	...	7,794	12,092	14,342	20,488	28,029	40,670	50,126	52,752	68,304	81,529
Incurable cases	...	...	...	...	4,550	2,302	1,776	2,620	7,200	9,544	10,554	7,765	9,871	9,675
Blind in one eye	...	...	...	...	1,189	2,116	2,438	3,196	4,115	5,360	6,425	5,637	7,042	9,385
Blind in both eyes...	...	...	...	...	852	1,385	3,010	2,811	2,824	3,878	3,591	2,992	3,504	4,611
Trichiasis cases examined	...	...	...	...	8,159	10,060	7,507	7,871	13,176	17,329	21,624	19,220	22,214	27,341
“ eyes operated on and cured	...	...	...	...	2,262	3,128	2,022	3,933	6,942	11,700	16,542	19,149	26,094	30,200
New patients treated per age :—														
Under 1 year ... ..	...	...	...	...	247	516	457	761	1,495	2,700	2,472	3,023	4,031	5,168
From 1 to 5 years	...	...	...	...	585	1,645	1,497	1,903	3,317	4,631	6,394	5,762	7,865	7,938
“ 6 to 10	...	...	...	...	902	1,442	4,469	2,101	3,210	4,786	5,634	5,229	6,985	9,217
“ 11 to 15	...	...	...	...	849	1,294	1,475	2,051	3,056	3,799	4,570	5,651	6,275	7,965
“ 16 to 20	...	...	...	...	829	1,156	1,499	2,067	2,588	3,253	3,949	4,491	5,752	6,748
“ 21 to 40	...	...	...	...	2,584	3,775	4,845	6,116	8,167	12,679	17,257	18,492	23,017	28,028
“ 41 and over	...	...	...	...	1,798	2,206	3,100	5,589	6,196	8,822	9,850	10,104	14,379	16,465



TABLE XIV.—Work done at all Ophthalmic Hospitals during the Year 1917.

													1917
I.—IN-PATIENTS : Total number													2,847
Number of available beds													208
Number of diets issued													65,384
II.—OPERATIONS :—													
(1) Major :—													
(a) Senile cataract												477	
(b) Soft cataract												194	
(c) Trichiasis												30,200	
(d) Other operations												7,091	
Total												37,962	
(2) Minor :—													
(a) Scraping lids of trachoma patients												4,490	
(b) Other operations												17,129	
Total												21,619	
GRAND TOTAL													59,581
III.—OUT-PATIENTS :—													
(1) Incurable *													6,727
(2) Postponed													12,154
(3) Tickets issued, i.e. new cases													81,529
(4) Old cases													903,751
(5) Total number of out-patient visits													1,004,161
(6) Average number of visits made to hospital by each patient under regular treatment													12
(7) Discharges :—													
(a) Cured												11,900	
(b) Relieved												3,354	
(c) Incurable †												2,948	
(d) Spontaneously ceased to attend after having attended only once												11,977	
(e) Spontaneously ceased to attend after having attended more than once												44,825	
(8) Trichiasis cases seen among new patients :—													
(a) No previous operation having been performed...												21,131	
(b) Previous operation performed :—													
i. Successfully												2,061	
ii. Unsuccessfully (not at an ophthalmic hospital, but probably by some charlatan)												4,149	
Total												27,341	
(9) Ophthalmoscope and refraction cases													17,615
(10) General anæsthetics													5,422
(11) Visits of constant wash cases													124,046
(12) Ages of patients examined :—													
(a) Under 1 year												5,168	
(b) From 1 to 5 years												7,938	
(c) " 6 " 10 "												9,217	
(d) " 11 " 15 "												7,965	
(e) " 16 " 20 "												6,748	
(f) " 21 " 40 "												28,028	
(g) Over 40 years...												16,465	
(13) Origin of patients :—													
Town in which hospital is situated												29,947	
Markaz in which hospital is situated												31,301	
Other Markazes												20,281	

\* Incurable cases do not receive tickets, but are recognized as both incurable and devoid of surgical interest.

† Incurable cases include those which are recognized as soon as seen by the surgeon as incurable but are given tickets for statistical or other purposes.

TABLE XV.—List of Diseases.

	1917
AMETROPIA :—	
Hypermetropia ... ..	332
Myopia ... ..	379
Astigmatism ... ..	300
Presbyopia ... ..	31
CONJUNCTIVA :—	
Conjunctivitis, simple ... ..	2,206
„    muco-purulent or purulent ... ..	7,080
„    gonococcal ... ..	4,878
Other varieties ... ..	1,418
Trachoma I ... ..	4,237
„    II ... ..	10,133
„    III ... ..	73,310
„    IV ... ..	3,733
Spring catarrh ... ..	5
Post-trachomatous degeneration ... ..	14,614
Phlyctenule ... ..	3,167
Pterygium ... ..	1,515
Pinguecula ... ..	300
Xerosis ... ..	148
Symblepharon ... ..	96
Dermoid ... ..	17
Other conditions :—	
Argyrosis ... ..	40
Colloid degeneration ... ..	28
Hypertrophied caruncle ... ..	52
Injuries (foreign bodies, burn, etc.) ... ..	58
Cyst ... ..	17
EYELIDS :—	
Pediculosis ciliaris ... ..	178
Trichiasis and entropion ... ..	24,709
Distichiasis ... ..	59
Ectropion ... ..	357
Lagophthalmos ... ..	1,331
Blepharitis ... ..	9,273
Hordeolum ... ..	356
Wart ... ..	68
Meibomian cyst ... ..	204
Chalazion ... ..	200
Eczema ... ..	159
Rodent ulcer ... ..	6
Dermoid ... ..	22
Ptosis ... ..	184
Erysipelas ... ..	5
Herpes ... ..	14
Rodent ulcer ... ..	3
Other tumours ... ..	25
Fly larvæ ... ..	2
LACRIMAL APPARATUS :—	
Lacrimal fistula ... ..	47
Stenosis of the duct ... ..	29
Dacryocystitis, acute ... ..	18
„    chronic ... ..	441
Dislocated gland ... ..	1



TABLE XV.—List of Diseases (*continued*).

	1917
<b>CORNEA :—</b>	
Ulceration, simple ... ..	3,960
„ hyopyon ... ..	299
„ perforation ... ..	1,202
„ special forms ... ..	176
Pannus ... ..	41,790
Keratitis, interstitial ... ..	6
„ trachomatous ... ..	647
Nebula or leucoma ... ..	33,652
Adherent leucoma ... ..	5,502
Totally opaque cornea... ..	2,753
Staphyloma ... ..	1,602
Xerosis of cornea... ..	305
Abscess of cornea ... ..	29
Conical cornea ... ..	415
Injuries (burn, foreign bodies, etc.)... ..	249
Fistula ... ..	1
<b>IRIS :—</b>	
Anterior synechia... ..	598
Posterior „ ... ..	329
Inflammation... ..	345
Iris bombé ... ..	23
Tumour ... ..	1
Irido-dialysis... ..	32
Congenital coloboma ... ..	8
Aniridia ... ..	4
Persistent pupillary membrane... ..	9
<b>SCLEROTIC :—</b>	
Ciliary staphyloma ... ..	526
Episcleritis ... ..	10
Injuries ... ..	10
<b>CHOROID :</b>	
Coloboma ... ..	6
Rupture ... ..	1
Disseminated choroiditis ... ..	30
Choroido-retinitis... ..	14
Atrophy of choroid ... ..	24
Tumours... ..	1
Albinismus ... ..	3
<b>RETINA :—</b>	
Retinitis, albuminuric and diabetic... ..	5
„ syphilitic ... ..	5
„ pigmentosa ... ..	41
Detachment of retina... ..	49
Embolism and thrombosis of retinal vessels ... ..	2
Glioma ... ..	3
Other conditions ... ..	12
<b>OPTIC NERVE :—</b>	
Neuritis ... ..	34
Atrophy ... ..	188
Other conditions ... ..	24



TABLE XVI.—List of Operations.

	1917
<b>EYELIDS :—</b>	
For Trichiasis and Entropion :—	
Snellen's ... ..	22,375
Anagnostakis ... ..	102
Snellen-Anagnostakis ... ..	1,187
Canthoplasty ... ..	247
Grafting mucous membrane ... ..	5,721
Electrolysis ... ..	400
Excision of lash ... ..	227
Other operations ... ..	295
Combined excision for trichiasis ... ..	77
For Ectropion :—	
Plastic ... ..	13
MacCallan's ... ..	26
Kenneth Scott's ... ..	2
Other operations ... ..	6
For Symblepharon ... ..	45
For Hordeolum and Chalazion ... ..	624
Cyst removed ... ..	113
Wart excised ... ..	42
Restitching wounds ... ..	63
„ abscesses ... ..	284
<b>CONJUNCTIVA :—</b>	
For Trachoma :—	
Expression ... ..	3,407
Scraping ... ..	4,490
Combined excision of Heisrath ... ..	860
Post-trachomatous degeneration ... ..	11,596
Other operations ... ..	377
Pterygium ... ..	806
<b>IRIS :—</b>	
Iridectomy for adherent leucoma ... ..	2,112
„ visual ... ..	205
„ for glaucoma ... ..	153
„ preliminary for cataract ... ..	6
Cystoid cicatrix ... ..	4
Division of anterior synechia ... ..	40
Excision of prolapse ... ..	6
<b>LACRIMAL SAC :—</b>	
Excision ... ..	136
Various ... ..	289
Growth sclera ... ..	2
Mucocele syringed ... ..	71
<b>LENS :—</b>	
For Senile Cataract :—	
Extraction with iridectomy ... ..	477
„ after previous iridectomy ... ..	11
For membrane after extraction : Discission ... ..	413
For Soft Cataract :—	
Extraction ... ..	9
Discission ... ..	28
Curette evacuation ... ..	194
For membrane after extraction :—	
Discission ... ..	80
Paracentesis ... ..	26
Capsulotomy ... ..	5
Capsule extraction ... ..	1
<b>GLOBE :—</b>	
Trephining of cornea-sclera with iridectomy ... ..	655
Excision ... ..	459
Evisceration ... ..	138
Trephining of cornea-sclera without iridectomy ... ..	5
<b>ORBIT :—</b>	
Exploration ... ..	1
Exenteration ... ..	2
For Tumour ... ..	5
„ Dermoid ... ..	15
„ Cellulitis ... ..	7
<b>CORNEA :—</b>	
Foreign bodies removed ... ..	227
Saemisch's section ... ..	59
Cautery ... ..	97
Tenotomy and advancement ... ..	21
Other major operations ... ..	231
Trial with magnet (all negative) ... ..	6



— 18 —

TABLE XVII.—Total of New Patients treated per Month at the Ophthalmic Hospitals during 1917.

	1917		1917
January... ..	5,203	July ... ..	7,745
February ... ..	5,515	August ... ..	9,378
March ... ..	5,552	September... ..	6,992
April ... ..	5,484	October ... ..	8,511
May ... ..	8,205	November ... ..	6,765
June ... ..	7,357	December ... ..	4,822
		TOTAL ... ..	81,529

TABLE XVIII.—Number of Patients treated and Operations performed at the Ophthalmic Hospitals during 1917.

PATIENTS TREATED.										OPERATIONS PERFORMED.									
Asyût ... ..	6,874	Asyût ... ..	4,668	Tanta ... ..	6,555	Tanta ... ..	4,580	Faîyûm... ..	4,058	Minya ... ..	3,953	Mansûra ... ..	3,684	Beni Suef ... ..	3,581	Asyût No. 1... ..	3,580	Shibîn el Kôm ... ..	3,560
Zagazig ... ..	5,260	Sohâg ... ..	3,521	Asyût No. 1 ... ..	4,968	No. 1 Camp ... ..	3,475	Shibîn el Kôm ... ..	3,560	No. 2 Camp ... ..	3,285	Damanhûr ... ..	3,262	Zagazig... ..	3,505	Damanhûr ... ..	3,262	Mahalla el Kubra ... ..	3,032
Beni Suef ... ..	4,910	Minya ... ..	4,853	Beni Suef ... ..	4,910	No. 2 Camp ... ..	3,285	Asyût No. 1 ... ..	3,580	Beni Suef ... ..	3,581	Mahalla el Kubra ... ..	3,032	No. 1 Camp ... ..	3,475	Daqahliya No. 1 ... ..	3,568	Daqahliya No. 1 ... ..	2,667
Minya ... ..	4,853	Shibîn el Kôm ... ..	3,521	Shibîn el Kôm ... ..	4,184	Beni Suef ... ..	4,910	Shibîn el Kôm ... ..	3,560	Minya ... ..	3,953	Kafr el Zaîyât ... ..	2,630	No. 2 Camp ... ..	3,285	Santa ... ..	3,528	Kafr el Zaîyât ... ..	2,630
No. 1 Camp ... ..	5,341	Sohâg ... ..	3,521	Daqahliya No. 1 ... ..	3,568	Minya ... ..	4,853	Asyût No. 1 ... ..	4,968	Daqahliya No. 1 ... ..	2,667	Santa ... ..	2,540	Damanhûr ... ..	3,262	Sohâg ... ..	3,510	Santa ... ..	2,540
Damanhûr ... ..	5,269	Zagazig... ..	3,505	Santa ... ..	3,528	No. 2 Camp ... ..	4,636	Shibîn el Kôm ... ..	3,560	Kafr el Zaîyât ... ..	2,630	TOTAL... ..	81,529	Mahalla el Kubra ... ..	3,032	Kafr el Zaîyât ... ..	3,494	TOTAL ... ..	59,581
Faîyûm ... ..	5,266	No. 1 Camp ... ..	3,475	Sohâg ... ..	3,510	Shibîn el Kôm ... ..	4,184	Daqahliya No. 1 ... ..	3,568	Santa ... ..	2,667								
Zagazig ... ..	5,260	No. 2 Camp ... ..	3,285	Mahalla el Kubra ... ..	3,494	Daqahliya No. 1 ... ..	3,568	Santa ... ..	3,528	Kafr el Zaîyât ... ..	2,630								
Asyût No. 1 ... ..	4,968	Damanhûr ... ..	3,262	Kafr el Zaîyât ... ..	3,494	Santa ... ..	3,528	Sohâg ... ..	3,510	TOTAL ... ..	59,581								
Beni Suef ... ..	4,910	Mahalla el Kubra ... ..	3,032	TOTAL... ..	81,529														
Minya ... ..	4,853	Daqahliya No. 1 ... ..	2,667																
No. 2 Camp ... ..	4,636	Kafr el Zaîyât ... ..	2,630																
Shibîn el Kôm ... ..	4,184	TOTAL ... ..	59,581																

TABLE XIX.—Average Number of Operations per Month at the Ophthalmic Hospitals during 1917.

HOSPITALS.	OPERATIONS.	
	Major.	Minor.
Asyût ... ..	226	163
Tanta ... ..	218	164
Faîyûm ... ..	217	121
Mansûra ... ..	213	94
Beni Suef ... ..	213	86
No. 1 Camp ... ..	212	153
No. 2 Camp ... ..	206	123
Sohâg ... ..	201	92
Zagazig ... ..	198	94
Shibîn el Kôm ... ..	198	99
Minya... ..	197	133
Daqahliya Provincial Council No. 1 Camp... ..	191	89
Asyût Provincial Council No. 1 Camp ... ..	190	168
Damanhûr ... ..	187	85
Santa ... ..	162	69
Mahalla el Kubra ... ..	153	99
Kafr el Zaîyât ... ..	146	73

TABLE XX.—Pathological Report.

(A) *Specimens diagnosed microscopically (embedded, cut and stained).*

										Number.								
Affections of the lids	...	...	{	Inflammation...	...	...	...	...	...	6								
				Tumours...	...	{	Benign with cysts			2								
							Malignant			8								
Affections of the conjunctiva	{	Inflammation...	...	...	...	...	...	...	...	12								
										Trachoma	...	...	...	...	24			
										Degeneration: <i>i.e.</i> Hyaline, Amyloid, etc.			...	...	...	7		
										Tumours...	...	{	Benign			8		
													Malignant	{	Sarcoma			0
															Carcinoma			5
Affections of the lacrimal gland with duct	...	...	{	Inflammation...	...	...	...	...	...	0								
				Tumours...	...	{	Cyst...			0								
							Benign			1								
							Malignant	{	Sarcoma			0						
									Carcinoma			0						
Affection of the globe	...	...	{	Conjunctivitis with ulcers ending in	{	Staphyloma, partial, with secondary glaucoma				1								
						Staphyloma, total, with secondary glaucoma				0								
						Irido-cyclitis with atrophy				1								
						Phthisis bulbi				0								
				Tumours of tunic	{	Benign, cornea				1								
						Malignant	{	Retina			0							
				Choroid				1										
				Retinitis...	...	...	...	...	...	...	1							
				Uveitis	...	...	...	...	...	...	1							
				Trauma	...	...	...	...	...	...	2							
				Infection after operation	...	...	...	...	...	...	2							
				Primary glaucoma	...	...	...	...	...	...	2							
				Irido-cyclitis	{	Sympathetic				0								
						Endogenous				2								
						Gumma of ciliary body				1								
				Affection of the orbit	...	...	{	Tumours...	...	{	Benign			0				
Malignant, sarcoma			1															
Inflammation...	...	...	...					...	...	...	2							
Total										91								

TABLE XXI.—Receipts realized from Treatment Fees and Sale of Eye-Drops in the Government Ophthalmic Hospitals during 1917.

HOSPITAL.	1917		HOSPITAL.	1917	
	Sale of Eye-Drops.			Sale of Eye-Drops.	
	L.E.	M.		L.E.	M.
No. 1 Camp ... ..	12	840	Zagazig ... ..	14	535
No. 2 Camp ... ..	5	875	Damanhûr ... ..	12	120
Tanta... ..	18	340	Shibîn el Kôm... ..	16	085
Asyût ... ..	*15	998	Sohâg ... ..	6	722
Mansûra ... ..	9	695	Minya ... ..	8	475
Beni Suef... ..	16	450	Faîyûm ... ..	16	730
			TOTAL... ..	153	865

\* Plus L.E. 16 received as treatment fees.

TABLE XXII.—Source of Provision and Maintenance of Hospitals.

	PROVIDED BY	MAINTAINED BY	DATE OPENED.
PERMANENT :—			
Tanta ... ..	Government grant ... ..	Government grant ...	1908
Asyût ... ..	Public subscription and Government grant ... ..	„ „ ...	1911
Mansûra ... ..	Gift by Badrawi Pasha ...	„ „ ...	1912
Beni Suef ... ..	Public subscription ... ..	„ „ ...	1912
Zagazig ... ..	Provincial Council ... ..	„ „ ...	1913
Mahalla el Kubra ... ..	„ „ ... ..	Provincial Council ...	1913
Kafr el Zaîyât ... ..	„ „ ... ..	„ „ ...	1913
Damanhûr ... ..	„ „ ... ..	Government grant ...	1914
Shibîn el Kôm ... ..	Public subscription ... ..	„ „ ...	1914
Sohâg ... ..	„ „ ... ..	„ „ ...	1914
Minya ... ..	Provincial Council ... ..	„ „ ...	1915
Santa ... ..	„ „ ... ..	Provincial Council ...	1915
Faîyûm ... ..	„ „ ... ..	Government grant ...	1916
TRAVELLING :—			
No. 1 Camp ... ..	Sir Ernest Cassel ... ..	Sir Ernest Cassel ...	1904
No. 2 Camp ... ..	„ „ ... ..	„ „ ...	1905
Asyût Provincial Council... ..	Provincial Council ... ..	Provincial Council ...	1912
Daqahliya Provincial Council...	„ „ ... ..	„ „ ...	1913



TABLE XXIII.—Money raised from Local Sources for Capital Expenditure and thereby saved to the Government Treasury.

HOSPITALS.	Private Donations.	Vote of Provincial Councils.
	L.E.	L.E.
Asyût ... ..	5,004	—
Mansûra ... ..	5,000	—
Beni Suef ... ..	4,000	—
Zagazig ... ..	—	4,286
Damanhûr ... ..	—	5,000
Shibîn el Kôm ... ..	5,422	—
Sohâg ... ..	4,000	—
Minya ... ..	—	5,500
Faiyûm ... ..	—	4,000
Qena ... ..	—	1,600
Gîza ... ..	—	1,500
Aswân ... ..	155	—
Kafr el Zaiyât ... ..	—	2,200
Mahalla el Kubra ... ..	—	2,400
Santa ... ..	—	2,600
Asyût No. 1 ... ..	—	720
Daqahliya No. 1 ... ..	—	720
Total ... ..	23,581	30,526
GRAND TOTAL ... ..	54,107	

TABLE XXIV.—Average Temperature in 1917.

(Figures kindly supplied by the Director, Physical Department, Ministry of Public Works.)

MONTH.	QORASHÎYA (1).		ZAGAZIG (1).		BENI SUEF (2).		ASYÛT (1).		TOTAL.	AVERAGE.
	1st.	16th.	1st.	16th.	1st.	16th.	1st.	16th.		
January ... ..	11·6	13·4	12·6	12·0	13·1	12·6	11·6	13·4	100·3	12·5
February ... ..	12·8	11·1	13·4	11·4	12·6	14·0	14·0	14·8	104·1	13·0
March ... ..	11·4	14·8	12·6	16·0	11·6	14·4	13·2	16·4	110·4	13·8
April ... ..	18·9	19·8	18·5	19·8	23·0	20·6	24·6	23·6	168·8	21·1
May ... ..	16·4	20·8	16·6	20·9	16·7	22·0	19·0	24·0	156·4	19·6
June ... ..	21·9	29·3	21·7	28·8	22·2	30·6	25·8	31·7	212·0	26·5
July ... ..	24·6	25·6	24·8	—	26·8	27·6	28·9	27·7	186·0	26·6
August ... ..	26·7	27·4	25·6	27·4	27·8	29·0	27·9	30·5	222·3	27·8
September ... ..	26·0	23·1	24·6	22·8	28·1	24·1	29·7	25·2	203·6	25·4
October ... ..	21·5	20·4	20·4	—	23·4	23·4	22·0	22·3	153·4	21·9
November ... ..	19·8	20·1	—	19·8	—	—	20·7	21·5	101·9	20·4
December ... ..	16·2	11·3	15·8	11·4	—	—	16·6	11·1	82·4	13·7

The average temperature was arrived at by taking two places in Lower Egypt (Qorashîya and Zagazig) and two places in Upper Egypt (Beni Suef and Asyût) and obtaining an average figure from the mean temperature at each place on the 1st and 16th of each month. This is shown in above table, the readings being in degrees centigrade.

(1) = Mean of day  $\frac{8h + 14h + 20h + \text{Min.}}{4}$

(2) = Mean of day  $\frac{\text{Max.} + \text{Min.}}{2}$

## APPENDIX.

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### PUBLICATIONS.

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#### A. Annual.

- (1) Annual Report on Ophthalmic Hospitals, 1912, 1913, 1914, 1915, 1916, and 1917.
- (2) Bulletin of the Ophthalmological Society of Egypt, 1911, 1912, 1913, 1914, 1915, 1917, 1918.

#### B. Occasional.

- (1) Four Years' Work with the Ophthalmic Hospitals of Egypt. Annual Meeting, British Medical Association, 1907.
  - (2) The Relief of Eye Disease in Egypt, with some Consideration of the Incidence of Blindness and Trachoma. Sixteenth International Medical Congress, Budapest, 1909. *Reprints available.*
  - (3) The Egyptian Ophthalmic Hospitals. Annual Meeting, British Medical Association, 1910. *Reprints available.*
  - (4) Ophthalmic Hospitals in Egypt. Ophthalmic Record, U.S.A., 1910. *Reprints available.*
  - (5) Communication read at the Fourth International Blind Congress in Cairo, February 1911. Published in "Ophthalmoscope," 1911.
  - (6) *Les Divisions du Trachome, le Traitement de cette Affection et de ses Complications.* "Archives d'Ophthalmologie," Septembre, 1911.
  - (7) Trachoma and its Complications in Egypt. Cambridge University Press. London, 1913.
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Govt. Press, 2325-1919-400 ex.

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